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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,543	06/24/2005	Yoshiaki Zama	272793US0PCT	6714
22850	7590	12/31/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			WEDDLE, ALEXANDER MARION	
			ART UNIT	PAPER NUMBER
			1792	
			NOTIFICATION DATE	DELIVERY MODE
			12/31/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/540,543	ZAMA ET AL.	
	Examiner	Art Unit	
	ALEXANDER WEDDLE	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 October 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 8-13 and 19-23 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 8-13 and 19-23 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/19/2008</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 8-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new limitation "less than 2 pm" in line 13 is not supported in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase ". . . pigment (A) consist of comprises . . ." in line 3 is indefinite.

Claim Rejections - 35 USC § 102/103

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 23 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Urscheler (US 2005/0039871).

The reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process. See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) and *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP §2113.

Regarding Claim 23, Urscheler (US'871) teaches a coated paper made by the process for producing coated paper comprising a non-contact coating composition (par. 0026) using a curtain coater with a coating speed of 800 m/min – 1500 m/min (pars. 0055 and 0123). US'871 teaches that the composition comprises a pigment (A) (0029), a copolymer latex ("binder") (B) (par. 0040), a wetting agent ("surfactant") (C) (par. 0071), and a viscosity adjusting agent (D) ("thickener") (par. 0022). US'871 teaches a drying step (pars. 0008, 0018, 0054, 0087). US'871 also teaches that the coating composition has a viscosity of at least 50 mPa·s (Abstract and par. 0033).

Claim 23 is therefore anticipated by or obvious over the prior art absent evidence to the contrary.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 8-9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urscheler et al. (US PGPUB 2005/0039871) in view of Hasegawa et al. (US 6,572,951).

Regarding Claims 8-9, 12, and 13, Urscheler (US'871) teaches a process for producing coated paper comprising the step of coating a non-contact coating composition (par. 0026) using a curtain coater with a coating speed of 800 m/min – 1500 m/min (pars. 0055 and 0123). US'871 teaches that the composition comprises a pigment (A) (0029). US'871 suggests a drying step (pars. 0008, 0018, 0054, 0087). US'871 also teaches that the coating composition has a viscosity of at least 50 mPa·s (Abstract and par. 0033).

US'871 fails to teach the specifics of a base paper. Hasegawa et al. (US'951) teach a printing sheet with a center line average roughness showing the larger value is 1.0-3.5 microns (Abstract). The range of center line average roughness overlaps the range of centerline average roughness in the claim in the range 1.0 micron – 3.0 microns. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 by using the paper of US'951, because US'951 teaches that such paper prevents setoff while transferring a sufficient quantity of ink.

Regarding Claim 13, US'871 teaches a coated paper obtained by the process of US'871 (pars. 0123, 0125). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the coated paper of US'871 by substituting the paper of US'951 to yield predictable results, because US'951 teaches that such paper prevents setoff while transferring a sufficient quantity of ink.

Claims 8-9, 12, and 13 are therefore *prima facie* obvious absent evidence to the contrary.

12. Claims 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urscheler et al. (US PGPUB 2005/0039871) in view of Hasegawa et al. (US 6,572,951), and further in view of Ishikawa et al. (JP 05-179599).

Regarding Claim 8, Urscheler (US'871) teaches a process for producing coated paper comprising the step of coating a non-contact coating composition (par. 0026) using a curtain coater with a coating speed of 800 m/min – 1500 m/min (pars. 0055 and 0123). US'871 teaches that the composition comprises a pigment (A) (0029), a copolymer latex ("binder") (par. 0040), and a wetting agent ("surfactant") (C) (par. 0071). US'871 suggests a drying step (pars. 0008, 0018, 0054, 0087). US'871 also teaches that the coating composition has a viscosity of at least 50 mPa·s (Abstract and par. 0033).

US'871 fails to teach the base paper. Hasegawa et al. (US'951) teach a printing sheet with a center line average roughness showing the larger value is 1.0-3.5 microns (Abstract). The range of center line average roughness overlaps the range of centerline average roughness in the claim in the range 1.0 micron – 3.0 microns. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 by using the paper of US'951, because US'951 teaches that such paper prevents setoff while transferring a sufficient quantity of ink.

Regarding Claim 10, US'871 in view of US'951 fails to teach the process wherein the non-contact coating composition for paper further comprises a copolymer latex (B) which has a solids content of 5 to 30 parts by mass based on 100 parts by mass of the total of said pigment (A). Ishikawa (JP'599) teaches a copolymer latex for paper coating

(Claim 1). JP'599 teaches that the polymer latex is mixed to make up 5-35% of the weight (solid content) (par. 0006). The coating composition may further include pigment (par. 0023). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 in view of US'951 with the latex of JP'599, because JP'599 teaches that a latex coating is an advantageous paper-coating composition, which imparts high surface strength, stiffness, and print uniformity, while acting as a vehicle for pigment (Abstract; par. 0023).

US'871 in view of US'951 and JP'599 fails to teach that wetting agent is in the amount of from 0.01 to 2 parts by mass based on 100 parts by mass of the total the pigment. At the time of invention, the amount of wetting agent used in a coating composition was known in the art to be a result-effective variable, because it affects the surface tension of coating material, thereby affecting retention of coating material on or in the paper. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 in view of US'951 and JP'599 by determining the optimum amount of wetting agent as a result of routine optimization.

Regarding Claim 11, US'871 in view of US'951 and JP'599 teaches coating paper with a coating composition comprising pigments and high aspect clay (JP'599, par. 0023; US'871, par. 0104). US'871 in view of US'951 and JP'599 further teaches a coating composition of clay with a particle size of less than 2 microns (US'871, pars. 0061-0066). US'871 in view of US'951 and JP'599 fails to teach the composition used in the coating process wherein pigment (A) is a mixture of comprising fine particle clay, which comprises a component having a particle diameter of less than 2 microns in an

amount from 95 to 99% by mass, a high aspect clay, which comprises a component having a particle diameter of less than 2 microns in an amount from 80 to 89% by mass and another pigment. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 in view of US'951 and JP'599 using a composition which comprises a mixture of fine particle clay, high aspect clay and other pigments, because the use of such coating mixtures for paper coating is known in the art to reduce abrasion and enhance good flow of the coating composition (rheological properties).

US'871 in view of US'951 and JP'599 fails to teach the recited amounts of clay components in the coating composition. The ratio of fine particle clay to other clay components was known at the time of invention to be a result-effective variable, because the ratio affects the rheological properties of the coating composition. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify US'871 in view of JP'599 by determining the optimal ratio of clay as a result of routine optimization.

Claims 8, 10, and 11 are *prima facie* obvious absent evidence to the contrary.

13. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urscheler et al. (US PGPUB 2005/0039871) in view of Ishikawa et al. (JP 05-179599), and further in view of Hasegawa et al. (US 6,572,951).

Regarding Claims 19-22, Urscheler (US'871) teaches a process for producing coated paper comprising a non-contact coating composition (par. 0026) using a curtain coater with a coating speed of 800 m/min – 1500 m/min (pars. 0055 and 0123). US'871

teaches that the composition comprises a pigment (A) (0029), a copolymer latex ("binder") (B) (par. 0040), a wetting agent ("surfactant") (C) (par. 0071), and a viscosity adjusting agent (D) ("thickener") (par. 0022). US'871 suggests a drying step (pars. 0008, 0018, 0054, 0087). US'871 also teaches that the coating composition has a viscosity of at least 50 mPa·s (Abstract and par. 0033).

US'871 further fails to teach the process wherein the non-contact coating composition for paper further comprises a copolymer latex (B) which has a solids content of 5 to 30 parts by mass based on 100 parts by mass of the total of said pigment (A). Ishikawa et al. (JP'599) teach a copolymer latex for paper coating (Claim 1). JP'599 teaches that the copolymer latex is mixed to make up 5-35% of the weight (solid content) (par. 0006), and composed of 15-40% butadiene, 0.5% - 8% by weight of ethylenically unsaturated carboxylic acid monomer (pars. 0006-0017). The latex is formed by emulsion polymerization (par. 0017). The coating composition may further include pigment (par. 0023). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 with the latex of JP'599, because JP'599 teaches that a latex coating is an advantageous paper-coating composition, which imparts high surface strength, stiffness, and print uniformity, while acting as a vehicle for pigment (Abstract; par. 0023).

US'871 in view of JP'599 fails to teach that wetting agent is in the amount of from 0.01 to 2 parts by mass based on 100 parts by mass of the total said pigment. At the time of invention, the amount of wetting agent used in a coating composition was known in the art to be a result-effective variable, because it affects the surface tension of

coating material, thereby affecting retention of coating material on or in the paper. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 in view of JP'599 by determining the optimum amount of wetting agent as a result of routine optimization.

US'871 in view of JP'599 teaches a process of coating paper with a coating composition comprising pigments and high aspect clay (JP'599, par. 0023; US'871, par. 0104). US'871 in view of JP'599 fails to teach the composition used in the coating process wherein pigment (A) comprises a fine particle clay, which comprises a component having a particle diameter of less than 2 microns in an amount from 95 to 99% by mass, a high aspect clay, which comprises a component having a particle diameter of less than 2 microns in an amount from 80 to 89% by mass and another pigment. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'871 in view of JP'599 using a composition which comprises a mixture of fine particle clay, high aspect clay and other pigments, because the use of such coating mixtures for paper coating is known in the art to reduce abrasion and enhance good flow of the coating composition (rheological properties).

US'871 in view of JP'599 further fails to teach the specific amounts of clay components in the coating composition. The ratio of fine particle clay to other clay components was known at the time of invention to be a result-effective variable, because the ratio affects the rheological properties of the coating composition. It would have been obvious to a person of ordinary skill in the art at the time of invention to

modify US'871 in view of JP'599 by determining the optimal ratio of clay as a result of routine optimization.

US'871 in view of JP'599 further fails to teach that the composition has a surface tension of from 25 to 45 mN/m at a surface lifetime of 10 ms. Hasegawa et al. (US'951) disclose that the surface tension of an oil component on a printing sheet is 27-30 mN/cm² at a contact time of 5 ms (Abstract). It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the composition in the process of US'871 in view of JP'599 by modifying the surface tension of the composition, because US'951 suggests that this surface tension is useful for enhancing setoff and absorbability of the paper. Furthermore, surface tension is a result-effective variable because it was known in the art at the time of invention to affect the ability of paper to absorb coating material. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify US'871 in view of JP'599 by determining an optimal surface tension as a result of routine optimization.

Claims 19-22 are *prima facie* obvious absent evidence to the contrary.

Conclusion

14. No Claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER WEDDLE whose telephone number is (571) 270-5346. The examiner can normally be reached on Monday-Thursday, 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. W./
Examiner, Art Unit 1792
/Michael Kornakov/
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